

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (currently amended) ~~An~~ Optical transmission system with a transmitter function, a transmission line<sub>2</sub> and a receiver function where each channel has its optical spectrum truncated by a filter function according to a vestigial side-band method,

the transmitter function comprising ~~with~~ modulators and a wavelength multiplexer for either equidistant or non-equidistant channel spacing;

the receiver function comprising a wavelength demultiplexer, and electrical receivers;

the filter function comprising a first filter and a second filter, the second filter having a transmission response with maximum transmission at the central wavelength of the channel<sub>2</sub> and the first filter ~~has~~ having a transmission response with maximum transmission in the relevant sideband of said WDM channel, ~~and~~ the filters ~~are~~ being tunable.

2. (currently amended) ~~The~~ Transmission system according to claim 1<sub>2</sub> wherein the two filters are tunable with changes of the maximum distance between them.

3. (currently amended) ~~The~~ Transmission system according to claim 1<sub>2</sub> wherein the transmission maxima of the first and the second filters ~~is~~ are about 15 GHz apart from each others.

4. (currently amended) ~~The~~ Transmission system according to claim 1<sub>2</sub> wherein the first and the second filter are fiber Bragg grating filters with a common support device.

5. (currently amended) ~~The~~ Transmission system according to claim 1<sub>3</sub> wherein the first and the second filter are Fabry Perot Filters.

6. (currently amended) ~~The~~ Transmission system according to claim 1<sub>4</sub> wherein the first and the second filter are structures in a planar lightwave circuit.

7. (currently amended) A ~~M~~method for optimization of bit error rate in a VSB-WDM transmission system comprising ~~the steps~~:

- ~~T~~ransmitting coded optical signals over a transmission line;
- ~~D~~emultiplexing the WDM channel wavelengths;
- ~~F~~iltering the sideband of the channel wavelengths;
- and additionally;
- ~~F~~iltering with two parallel aligned filters where the first filter is filtering the sideband and the second filter is filtering the carrier wavelength;
- Aadjusting the second filter exactly on the channel wavelength by a feed back loop; and
- Maintaining the distance between the maxima of the two filters.